

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

8800 Cal Center Drive
Sacramento, California 95826



*Paul Relis, Chairman
Wesley Chesbro, Member*

**Monday, March 21, 1994
2:00 p.m.
meeting of the**

MARKET DEVELOPMENT COMMITTEE

**of the
CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD**

**8800 Cal Center Drive
Sacramento, CA 95826**

AGENDA

*Note: o Agenda items may be taken out of order.
o If written comments are submitted, please provide 20
two-sided copies.*

Important Notice: The Board intends that Committee Meetings will constitute the time and place where the major discussion and deliberation of a listed matter will be initiated. After consideration by the Committee, matters requiring Board action will be placed on an upcoming Board Meeting Agenda. Discussion of matters on Board Meeting Agendas may be limited if the matters are placed on the Board's Consent Agenda by the Committee. Persons interested in commenting on an item being considered by a Board Committee or the full Board are advised to make comments at the Committee meeting where the matter is considered.

1. CONSIDERATION OF A CONTRACT FOR FINANCIAL TECHNICAL SERVICES TO SUPPORT THE RECYCLING MARKET DEVELOPMENT ZONE LOAN PROGRAM
2. CONSIDERATION OF A CONTRACT FOR LEGAL SERVICES TO SUPPORT THE RECYCLING MARKET DEVELOPMENT ZONE LOAN PROGRAM
3. CONSIDERATION OF APPROVAL OF RECYCLING MARKET DEVELOPMENT ZONE LOANS

4. OPEN DISCUSSION

5. ADJOURNMENT

Notice:

The Committee may hold a closed session to discuss the appointment or employment of public employees and litigation under authority of Government Code Sections 11126 (a) and (q), respectively.

For further information contact:
INTEGRATED WASTE MANAGEMENT BOARD
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Sacramento, CA 95826

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1990 GRADE SPECIFIC UTILIZATION FOR RECYCLING RATES				
	TOTAL PAPER	NEWS	OCC	ALL OTHER
	TONS	TONS	TONS	TONS
1990 NUMERATOR				
US UTILIZATION				
US Mill Waste Paper Consumption	22,007,500	4,084,500	10,686,500	7,236,500
Less Pulp Substitutes	2,731,800	0	0	2,731,800
subtotal	19,275,700	4,084,500	10,686,500	4,504,700
Plus Exports (less pulp subs)	6,111,100	1,256,700	2,730,800	2,123,600
subtotal	25,386,800	5,341,200	13,417,300	6,628,300
Less Imports	122,500	23,000	11,200	88,300
subtotal	25,264,300	5,318,200	13,406,100	6,540,000
Plus Other Uses	704,000	704,000	0	0
Total Utilization	25,968,300	6,022,200	13,406,100	6,540,000
ADJUSTING US UTILIZATION TO CALIFORNIA				
Based on:				
Population	3,120,368	723,632	1,610,886	785,851
Infrastructure	3,594,681	833,627	1,855,749	905,304
1990 DENOMINATOR				
CA. Paper Disposal (Gross)	11,167,887	1,797,919	3,297,649	6,072,319
Moisture Content Adjustment	12.11%	17.11%	9.93%	11.82%
Adjusted Disposal*	9,815,456	1,490,295	2,970,192	5,354,571
Total Generation*	13,410,137	2,323,923	4,825,942	6,259,875
1990 UTILIZATION RATE				
	27%	36%	38%	14%
VARIABLES USED IN THE 1990 CALCULATION				
CA POPULATION (POP)	29,976,000			
US POPULATION (POP)	249,466,000			
CA POP SERVED BY CURBSIDE	6,475,000			
US POP SERVED BY CURBSIDE	37,054,300			
MOUNTAIN & PACIFIC STATES (MP) POP	52,786,000			
MP CONSUMPTION	3,417,000			
US CONSUMPTION	19,003,800			
MOISTURE CONTENT	disposed	recovered		
all paper	0.1911	0.0700		
occ	0.1693	0.0700		
news	0.2411	0.0700		
misc. paper	0.1882	0.0700		
WEIGHTING FACTORS				
curbside	0.5000			
mill consumption	0.5000			
* grades do not equal total due to rounding				

1992 UTILIZATION FOR RECYCLING RATES				
	TOTAL PAPER	NEWS	OCC	ALL OTHER
	TONS	TONS	TONS	TONS
1992 NUMERATOR				
US UTILIZATION				
US Mill Waste Paper Consumption	26,488,900	5,045,400	12,614,200	8,829,300
Less Pulp Substitutes	3,184,500	0	0	3,184,500
subtotal	23,304,400	5,045,400	12,614,200	5,644,800
Plus Exports (less pulp subs)	5,833,900	1,306,200	2,793,700	1,734,000
subtotal	29,138,300	6,351,600	15,407,900	7,378,800
Less Imports	149,700	21,300	31,400	97,000
subtotal	28,988,600	6,330,300	15,376,500	7,281,800
Plus Other Uses	810,000	810,000	0	0
Total Utilization	29,798,600	7,140,300	15,376,500	7,281,800
ADJUSTING US UTILIZATION TO CALIFORNIA				
Based on:				
Population	3,656,456	876,155	1,886,783	893,518
Infrastructure	4,502,013	1,078,766	2,323,103	1,100,144
1992 DENOMINATOR				
1990 CA Paper Generation*	13,410,137	2,323,923	4,825,942	6,259,875
Generation Extrapolation*	13,429,521	2,327,282	4,832,918	6,268,923
1992 UTILIZATION RATE				
	34%	46%	48%	18%
VARIABLES USED IN THE 1992 CALCULATION				
CA POPULATION	31,300,000			
US POPULATION	255,082,000			
CA POP SERVED BY CURBSIDE	15,200,000			
US POP SERVED BY CURBSIDE	77,603,387			
MTN. & PACIFIC STATES(MP) POP	55,107,000			
MP CONSUMPTION	4,307,000			
US CONSUMPTION	23,014,400			
TOTAL GENERATION (1990)	all paper	news	occ	misc. paper
	13,410,137	2,323,923	4,825,942	6,259,875
WEIGHTED FACTORS				
curbside	0.5000			
mill consumption	0.5000			
EXTRAPOLATION INDICATORS	1990	1992	WEIGHTS	
CA CIVILIAN EMPLOYMENT	13,846,000	13,805,000	0.25	
CA RETAIL TAXABLE SALES	181,655,000,000	179,275,000,000	0.25	
CA POPULATION	29,976,000	31,300,000	0.25	
US PAPER & PAPERBOARD PROD.	80,344,000	83,975,900	0.25	
CONSUMER PRICE INDEX	130.70	140.30		
*grades do not equal total due to rounding				

METHODOLOGY VARIATIONS TO ACCOUNT FOR PRECONSUMER MATERIALS

When it unanimously adopted the motion to establish a voluntary paper utilization program, the California Integrated Waste Management Board (Board) specified that the calculation should be limited to postconsumer paper. Within this framework, Board staff consulted with technical experts representing various affected parties to determine the most suitable source to obtain data for the purpose of establishing a utilization estimate. It was determined that currently the most accurate information on paper recovery is maintained by the American Forest & Paper Association (AFPA). This data is published annually and available to the general public.

AFPA includes preconsumer paper in their recovery estimates. Because the Board motion specifies postconsumer paper, AFPA data should be adjusted to remove preconsumer grades. The following discussion concerns two variations in the proposed methodology to compensate for the inclusion of preconsumer grades. A third variation, include all material, is presented in the tables titled "*Comparison of Methodology Variations*" and "*Methodology Variations to Account for Preconsumer Material*," but not discussed in detail because it fails to remove preconsumer paper from the utilization estimate.

REMOVE PULP SUBSTITUTES:

AFPA classifies paper recovery data using five macro-categories, each composed of several specific paper grades. The five macro-categories include old newsprint, old corrugated cardboard, mixed paper, high-grade deinking and pulp substitutes. Pulp substitutes are composed of virtually 100% preconsumer paper. The remaining four categories also include preconsumer paper, but to an unknown and varying degree. Because AFPA publishes data with the macro-categories already aggregated, there is no means by which to remove the preconsumer paper. One methodology variation on to account for preconsumer materials is to remove pulp substitutes when calculating recovery and recognize that the utilization rate is overstated.

A primary advantage to using this methodology variation is that it can be updated annually, and, thus, can serve as a consistent indicator of the magnitude of increase in the paper utilization for recycling rate. Two primary disadvantages are that it is not entirely consistent with the motion's postconsumer directive and the precise extent to which the utilization rate is overestimated is undetermined.

REMOVE ALL PRECONSUMER SCRAP:

The alternative methodology relies on AFPA data as well; however, rather than remove only pulp substitutes, an attempt is made to factor out all preconsumer scrap, including pulp substitutes. After paper is made at the mill, it must be converted to a product that can be sold to consumers. This converting process generates clippings and other preconsumer scrap. Additional preconsumer scrap is generated at printing operations. Preliminary sources indicate that on average, preconsumer scrap accounts for about ten percent of total paper production.

Of that, approximately 90 to 96 percent is recovered for recycling. (Staff obtained three estimates of the amount of preconsumer scrap that is recovered for recycling, 90%, 93%, and 96%. The 93 percent figure, which is also the average, will be used as an estimate of the amount of preconsumer scrap recovered for recycling.) By multiplying annual production of paper and paperboard by ten percent and then by 93 percent, the product is the amount of preconsumer scrap that is recovered for recycling in a given year. This is then subtracted from total recovery as reported by AFPA to develop an estimate for the amount of recovered postconsumer material.

The advantage to using this methodology is that all preconsumer materials are removed from the utilization estimate, which is consistent with the motion. A primary disadvantage is that there is no means to regularly update the estimate of scrap as a percent of production or the percent of scrap that is recovered for recycling. These figures may change over time as technology evolves, and any changes would not be captured in the utilization rate. In addition, it has been difficult for staff to find published data to support verbal estimates.

COMPARISON OF METHODOLOGY VARIATIONS:

The following table shows the estimated utilization rates using the two different methodology variations. In addition, a third utilization rate is shown, that if all materials are included. As expected, the utilization rate decreases when pulp substitutes are removed and falls even more when all preconsumer scrap is removed from the utilization estimate.

COMPARISON OF METHODOLOGY VARIATIONS			
	Include All Materials	Remove Pulp Substitutes	Remove All Preconsumer
1990 Utilization Rate	29.1%	26.8%	22.9%
1992 Utilization Rate	36.6%	33.5%	30.1%

METHODOLOGY VARIATIONS TO ACCOUNT FOR PRECONSUMER MATERIALS

	Include All	Remove Pulp	Remove All
	Material	Substitutes	Preconsumer*
	Tons	Tons	Tons
1990 NUMERATOR			
US UTILIZATION			
US Mill Waste Paper Consumption	22,007,500	22,007,500	22,007,500
Less Preconsumer	0	2,731,800	7,471,992
subtotal	22,007,500	19,275,700	14,535,508
Plus Exports**	6,504,900	6,111,100	6,504,900
subtotal	28,512,400	25,386,800	21,040,408
Less Imports	122,500	122,500	122,500
subtotal	28,389,900	25,264,300	20,917,908
Plus Other Uses	704,000	704,000	704,000
Total Utilization	29,093,900	25,968,300	21,621,908
ADJUSTING US UTILIZATION TO CALIFORNIA			
Based on:			
Population	3,495,942	3,120,368	2,598,103
Infrastructure	4,027,326	3,594,664	2,993,014
1990 DENOMINATOR			
CA. Paper-Disposal (Gross)	11,167,887	11,167,887	11,167,887
Moisture Content Adjustment	9,815,456	9,815,456	9,815,456
Total Generation	13,842,781	13,410,120	12,808,470
1990 UTILIZATION RATE	29.09%	26.81%	23.37%
1992 NUMERATOR			
US UTILIZATION			
US Mill Waste Paper Consumption	26,488,900	26,488,900	26,488,900
Less Preconsumer	0	3,184,500	8,061,686
subtotal	26,488,900	23,304,400	18,427,214
Plus Exports**	6,447,700	5,833,900	6,447,700
subtotal	32,936,600	29,138,300	24,874,914
Less Imports	149,700	149,700	149,700
subtotal	32,786,900	28,988,600	24,725,214
Plus Other Uses	810,000	810,000	810,000
Total Utilization	33,596,900	29,798,600	25,535,214
ADJUSTING US UTILIZATION TO CALIFORNIA			
Based on:			
Population	4,122,529	3,656,456	3,133,315
Infrastructure	5,074,833	4,501,098	3,857,110
1992 DENOMINATOR			
1990 CA Paper Generation	13,842,781	13,410,120	12,808,470
Generation Extrapolation	13,862,161	13,428,894	12,826,402
1992 UTILIZATION RATE	36.61%	33.52%	30.07%
* Includes pulp substitutes; approximately 10% of production is scrap and 93% is recovered.			
**In the variation that removes all preconsumer material, preconsumer scrap is totally removed initially, so to remove it from the export calculation would be redundant.			

ANNUAL UTILIZATION RATE GOALS

At the February 1, 1994, Recovered Paper Advisory Committee (RPAC) meeting, it was collectively agreed that Board staff would develop annual utilization rate goals for all paper and, if possible, for major grades. Discussion focussed on the pros and cons of varying means to project feasible utilization goals.

For overall paper, staff proposed that goals be established using a linear increase of the magnitude necessary to attain the 50 percent utilization rate in the year 2000. The disadvantage to this technique is that it is not likely that the increase in the utilization rate will be linear. For example, if the law of diminishing returns applies, one would expect the magnitude of increase in the utilization rate to decrease over time. Others suggested that staff attempt to use announced increases in capacity to project how the utilization rate will increase over time. However, in light of the tight timeframe in which to develop models and limited information, staff were unable to explore either of these alternatives.

The graph titled *"Annual Utilization Rate Goals for All Paper"* presents annual goals for all paper using two methodology variations to quantify utilization. The two variations differ in that they account for preconsumer materials in different ways-- one removes pulp substitutes from the calculation and the other removes all preconsumer grades, including pulp substitutes, from the calculation. (For a complete analysis of these methods, consult the attached document titled *"Methodology Variations to Account for Preconsumer Materials."*) These annual goals are also summarized below in Table 1.

Using the variation that removes pulp substitutes, the utilization rate for all paper would need to increase by two percentage points a year to attain a 50 percent level by 2000. Under the scenario in which all preconsumer materials are removed, the utilization rate would need to increase by 2.5 percentage points a year. The annual, average percent increase using the former method is 105.1% and using the latter method is 106.6%. Over the past eight years (1984-1992), the historical percent increase in the recovery rate published by AFPA is 104.7%.

Table 1: Annual Utilization Rate Goals for All Paper									
	1992	1993	1994	1995	1996	1997	1998	1999	2000
Remove Pulp Substitutes	34%	36%	38%	40%	42%	44%	46%	48%	50%
Remove All Preconsumer	30%	32.5%	35%	37.5%	40%	42.5%	45%	47.5%	50%

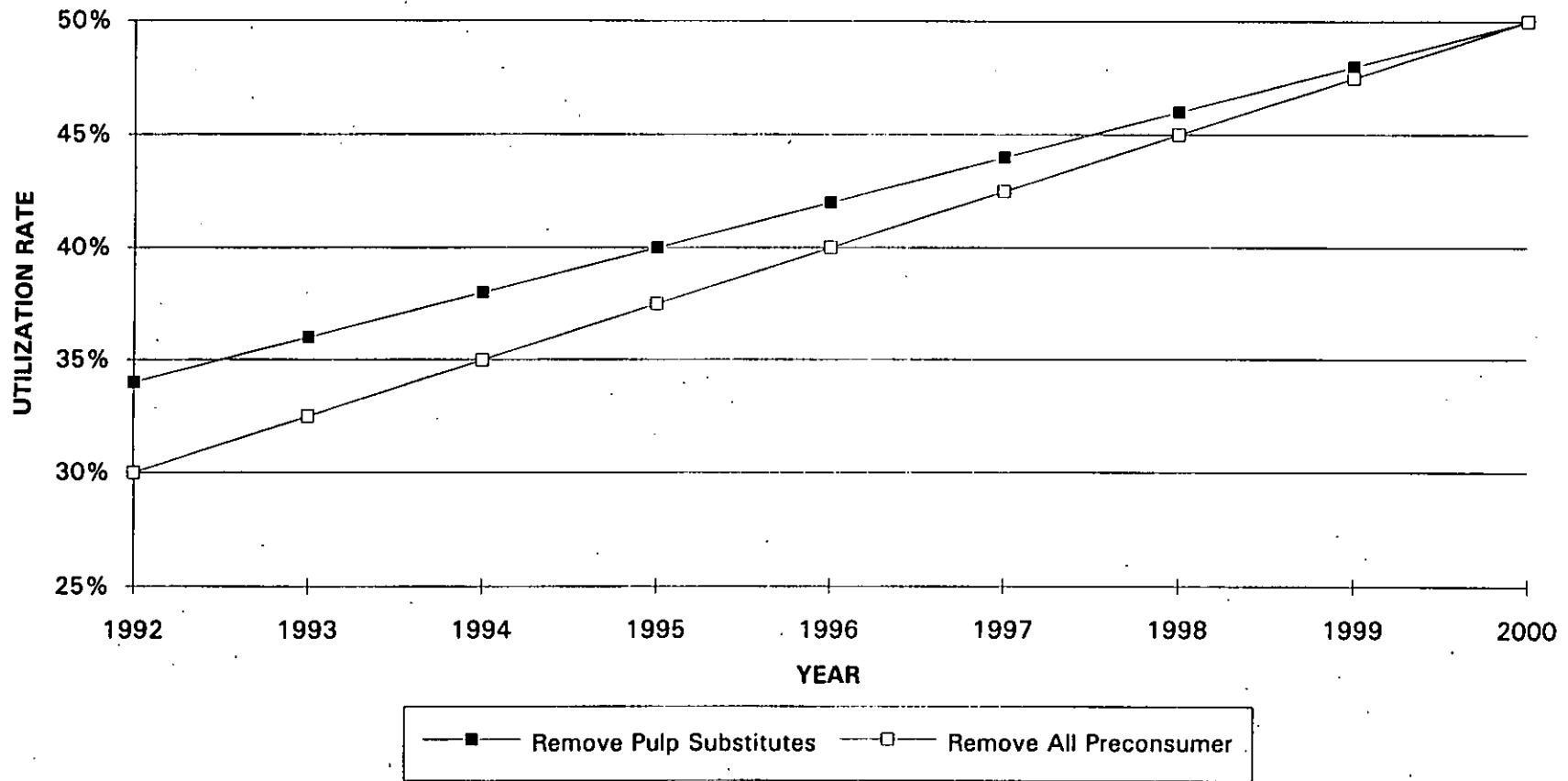
Because the methodology used by the paper industry to estimate recovery differs from that recommended by staff to measure utilization, the paper industry's goals cannot be used by staff to recommend annual utilization goals. In the absence of an alternative, staff recommend using the projections established in the Emerging Market Development Options Summary Report (Revised Draft presented to the Market Development Committee in November 1993) to establish the grade specific year 2000 goals. The same liner projection

method used to set annual goals for all paper grades can be used for specific grades, as well. Grade specific rates could only be established using the methodology variation that removes pulp substitutes. Grade specific rates could not be established for the methodology variation that removes all preconsumer because staff do not currently have sufficient information to perform the necessary calculations.

Annual grade specific goals are presented in the graph titled *"Annual Utilization Rate Goals for Major Paper Grades Using the Methodology Variation that Removes Pulp Substitutes"*. These annual goals are also below on the following page in Table 2.

Table 2: Annual Utilization Rate Goals for Major Paper Grades Using the Methodology Variation that Removes Pulp Substitutes									
	1992	1993	1994	1995	1996	1997	1998	1999	2000
ALL PAPER	34%	36%	38%	40%	42%	44%	46%	48%	50%
ONP	46%	47.8%	49.5%	51.3%	53%	54.8%	56.5%	58.3%	60%
OCC	48%	50.1%	52.3%	54.4%	56.5%	58.6%	60.8%	62.9%	65%
Other	18%	20.5%	23%	25.5%	28%	30.5%	33%	35.5%	38%

ANNUAL UTILIZATION RATE GOALS FOR ALL PAPER



ANNUAL UTILIZATION RATE GOALS FOR MAJOR PAPER GRADES USING THE
METHODOLOGY VARIATION THAT REMOVES PULP SUBSTITUTES

